

**APPENDIX M
TOPOGRAPHIC SURVEY REPORT**

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TOPOGRAPHIC SURVEY SERVICES

For

**PHASE II REMEDIAL INVESTIGATIONS
LOAD LINES 2, 3, and 4**

At

**RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO**

Prepared For:

SCIENCE APPLICATIONS INTERNATIONAL COMPANY

December, 2001

Prepared By:

DLZ OHIO, INC.

Cuyahoga Falls, OH



DLZ

ENGINEERS • ARCHITECTS • SCIENTISTS
PLANNERS • SURVEYORS

DLZ #0122-6017.00

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NARRATIVE

The following work was performed by DLZ OHIO, Inc. to provide Topographical Survey Services for Science Applications International Corporation for Phase II Remedial Investigations of Load Lines 2, 3, and 4 at the Ravenna Army Ammunition Plant in Ravenna, Ohio. This work took place in September and October, 2001.

At the site, control points RAV1, RAV2 and RAV11 were used with GPS to establish horizontal and vertical control for each Load Line. S.A.I.C. provided DLZ with the coordinates for RAV1, RAV2, and RAV11. The horizontal coordinates are based on the North American Datum of 1983, Ohio North Zone and the vertical coordinates are on the North American Vertical Datum of 1988 (NAVD88).

DLZ located a total of 30 monitoring wells and 376 soil and sediment samples.



Adam D. Treat 12-03-01

COORDINATE LISTING

List Nodes Report

ode #	North	East	Elev	Descrip
2001	559554.25	2374906.50	990.02	LL2-048
046	563166.89	2372630.99	990.76	LL2-046
049	558654.74	2374684.81	982.71	LL2-049
2052	558166.84	2375007.24	972.26	LL2-052
2053	558138.98	2375242.01	972.43	LL2-053
054	558024.69	2375708.25	954.53	LL2-054
2055	558133.40	2376309.67	939.70	LL2-055
2064	563514.82	2374401.30	1007.57	LL2-064
065	563519.64	2374349.88	1007.90	LL2-065
066	562908.53	2373468.21	1007.80	LL2-066
2067	562955.74	2373555.90	1006.16	LL2-067
2068	562817.54	2373671.66	1008.52	LL2-068
069	562733.48	2373508.86	1010.62	LL2-069
071	563298.72	2374178.77	1003.23	LL2-071
2072	563347.86	2374278.54	1003.32	LL2-072
2073	563357.22	2374344.74	1010.40	LL2-073
074	563138.59	2374267.85	1005.18	LL2-074
076	563121.77	2374025.69	1004.32	LL2-076
2078	562135.31	2373928.82	1010.10	LL2-078
2079	562086.47	2373941.24	1013.03	LL2-079
080	561578.96	2374221.18	1009.96	LL2-080
2081	561530.40	2374260.35	1009.39	LL2-081
2082	561518.53	2374229.79	1009.43	LL2-082
084	561446.05	2374047.32	1009.18	LL2-084
086	561575.37	2374187.87	1009.66	LL2-086
2087	561147.59	2374455.69	1010.11	LL2-087
2088	561139.46	2374488.36	1009.26	LL2-088
089	561115.84	2374430.62	1009.21	LL2-089
090	561076.19	2374452.57	1008.70	LL2 090
2093	561150.54	2374424.47	1008.25	LL2-093
2094	561966.03	2374091.38	1009.04	LL2-094
095	560548.13	2374781.83	1009.23	LL2-095
2096	561974.78	2373715.64	1012.44	LL2-096
2097	561943.68	2373719.61	1013.11	LL2-097
2098	560983.05	2374245.71	1007.53	LL2-098
099	560952.92	2374238.14	1010.99	LL2-099
2100	562397.25	2372968.50	1009.27	LL2-100
2101	562559.94	2372870.47	1009.45	LL2-101
1102	562599.43	2372960.13	1009.43	LL2-102
1103	562497.29	2373027.53	1009.97	LL2-103
2104	562467.98	2373129.96	1011.42	LL2-104
2105	562358.93	2373083.76	1008.82	LL2-105
1106	562292.43	2373136.11	1010.38	LL2-106
1107	562269.87	2373071.72	1010.45	LL2-107
2108	562279.86	2373032.23	1009.16	LL2-108
2109	559931.51	2374369.47	1009.06	LL2-109
1110	561503.22	2373578.93	1122.27	LL2-110
2111	560589.52	2373987.85	1009.11	LL2-111
2112	562161.28	2373093.97	1009.50	LL2-112
1113	559858.96	2374405.60	1009.84	LL2-113
1114	560028.71	2374379.36	1013.04	LL2-114
2115	561839.97	2373287.99	1009.20	LL2-115

List Nodes Report

Node #	North	East	Elev	Descrip
116	561871.06	2373333.59	1009.38	LL2-116
2117	561856.78	2373411.26	1013.29	LL2-117
2118	561760.46	2373401.53	1009.69	LL2-118
2119	561777.21	2373438.50	1010.33	LL2-119
2120	561707.79	2373428.84	1009.62	LL2-120
2121	561650.29	2373426.88	1008.78	LL2-121
2122	561688.56	2373436.72	1138.47	LL2-122
2126	561386.22	2373715.17	1012.23	LL2-126
2127	561358.58	2373702.77	1011.98	LL2-127
2128	561342.87	2373730.42	1010.63	LL2-128
2129	561309.31	2373702.49	1050.34	LL2-129
2130	561304.83	2373681.53	1009.75	LL2-130
2131	561334.24	2373734.49	999.81	LL2-131
2132	561386.71	2373831.81	1009.67	LL2-132
2133	561355.09	2373882.23	1008.03	LL2-133
2134	561328.22	2373886.29	1007.86	LL2-134
2139	561344.10	2373670.09	1011.63	LL2-139
2140	561394.33	2373736.01	1011.58	LL2-140
2141	561411.37	2373779.82	1011.87	LL2-141
2142	561265.47	2373853.26	1011.28	LL2-142
2143	561261.47	2373795.61	1013.31	LL2-143
2144	561230.98	2373729.42	1016.09	LL2-144
2145	560863.88	2373919.48	1009.59	LL2-145
2146	560899.66	2373983.79	1009.66	LL2-146
2147	560860.47	2374116.69	1009.00	LL2-147
2148	560884.53	2374129.11	1010.25	LL2-148
2149	560833.09	2374035.12	1010.06	LL2-149
2150	560797.40	2373964.89	1009.24	LL2-150
2154	560893.57	2373908.99	1013.70	LL2-154
2155	560927.12	2373969.85	1013.29	LL2-155
2156	560963.28	2374007.75	1013.50	LL2-156
2157	560984.15	2374041.23	1013.31	LL2-157
2158	560795.54	2374102.67	1012.15	LL2-158
2159	560772.58	2374031.97	1009.66	LL2-159
2160	560483.19	2374067.76	1009.34	LL2-160
2161	560483.48	2374029.92	1008.54	LL2-161
2162	560494.51	2374047.80	1009.32	LL2-162
2163	560516.89	2374048.53	1009.12	LL2-163
2164	560296.14	2374202.34	1009.90	LL2-164
2165	560040.44	2374331.06	1009.89	LL2-165
2166	560246.34	2374138.47	1009.34	LL2-166
2167	559994.29	2374276.51	1009.73	LL2-167
2169	559969.65	2374573.61	1009.71	LL2-169
2170	559934.80	2374526.64	1009.12	LL2-170
2171	559879.38	2374553.38	1009.26	LL2-171
2172	559853.09	2374608.83	1007.76	LL2-172
2175	559802.53	2374521.60	1010.70	LL2-175
2176	559539.93	2374665.38	1009.88	LL2-176
2177	559534.12	2374525.15	1008.99	LL2-177
2178	559739.63	2374414.74	1008.72	LL2-178
2179	563444.87	2374247.43	1000.87	LL2-179
2180	563492.47	2374259.96	999.64	LL2-180
2181	563492.43	2374294.89	999.18	LL2-181
2182	557907.61	2375781.89	949.65	LL2-182

List Nodes Report

Node #	North	East	Elev	Descrip
183	559172.60	2374736.34	989.99	LL2-183
2184	559895.23	2374970.98	1003.48	LL2-184
2185	559152.55	2374815.09	988.72	LL2-185
2186	559785.65	2374618.54	1008.67	LL2-186
2187	559807.80	2374615.09	1007.97	LL2-187
2188	559776.55	2374538.97	1010.54	LL2-188
2189	559916.00	2374736.26	1004.80	LL2-189
2212	559392.25	2374510.00	993.76	LL2-212
2213	560344.33	2374067.57	1009.05	LL2-213
2214	561047.35	2373827.65	1041.07	LL2-214
2215	561511.58	2373534.38	1127.99	LL2-215
2216	561869.98	2373306.03	1187.96	LL2-216
2217	562599.33	2372973.97	1009.05	LL2-217
2218	562997.44	2374951.67	1007.28	LL2-218
2219	561176.17	2374893.66	1015.01	LL2-219
2220	558960.29	2374946.81	987.03	LL2-220
2221	560216.36	2373219.64	1011.25	LL2-221
2222	562370.43	2372051.79	1005.37	LL2-222
2223	564287.45	2372905.08	984.69	LL2-223
2231	560970.26	2374234.68	1007.13	LL2-231
2232	561938.16	2373718.75	1014.18	LL2-232
2233	564318.33	2373266.63	981.22	LL2-233
2234	564085.88	2372970.04	982.05	LL2-234
2241	561937.58	2374107.91	1009.34	LL2-241
2243	560251.52	2374135.92	1009.16	LL2-243
2244	561939.70	2374064.15	1009.52	LL2-244
2245	560887.95	2374309.51	1000.61	LL2-245
2248	560131.75	2374971.62	1005.70	LL2-248
2249	559579.74	2374840.59	996.56	LL2-249
2252	558761.77	2374575.98	984.26	LL2-252
2253	561989.45	2374079.18	1009.14	LL2-253
2255	561556.66	2374186.13	1009.66	LL2-255
2256	561590.78	2374178.01	1009.60	LL2-256
2257	561569.35	2374171.57	1009.57	LL2-257
2258	561355.88	2373895.20	1009.49	LL2-258
2260	560228.03	2374111.49	1009.00	LL2-260
2261	561898.59	2373317.01	1011.40	LL2-261
2262	562219.47	2373971.46	1012.62	LL2-262
2263	561590.92	2374290.29	1011.47	LL2-263
2264	561173.63	2374532.76	1011.88	LL2-264
2265	557972.08	2375593.47	961.24	LL2-265
2266	561982.68	2373744.61	1016.28	LL2-266
2267	561393.73	2373714.17	1014.81	LL2-267
2268	560831.44	2374156.40	1017.28	LL2-268
2269	559483.90	2374756.74	1011.62	LL2-269
2270	562656.18	2372858.94	1010.18	LL2-270
2271	561989.52	2373713.97	1012.36	LL2-271
2272	561384.28	2373733.39	1011.95	LL2-272
2273	561427.32	2373730.27	1011.67	LL2-273
3046	559934.11	2369957.61	987.37	LL3-046
3047	559266.24	2370373.62	991.09	LL3-047
3048	558893.48	2370532.71	987.40	LL3-048
3049	558599.95	2370685.85	983.75	LL3-049
3050	558566.30	2370708.00	986.17	LL3-050

List Nodes Report

Node #	North	East	Elev	Descrip
051	558596.68	2369902.70	976.37	LL3-051
3052	558939.71	2369694.92	974.92	LL3-052 WS
3053	559640.11	2368770.63	968.71	LL3-053
054	560421.01	2370972.07	1002.63	LL3-054
055	560210.32	2371116.62	1002.46	LL3-055
3056	558869.16	2371846.39	1002.31	LL3-056
3057	559890.07	2371272.69	1003.61	LL3-057
058	559874.82	2371297.88	1002.12	LL3-058
3059	559834.61	2371303.83	1002.47	LL3-059
3060	559821.07	2371284.67	1003.06	LL2-060
063	559870.94	2371262.14	1003.80	LL3-063
064	559380.00	2371491.69	1003.79	LL3-064
3065	559427.13	2371487.64	1003.70	LL3-065
3066	559399.14	2371558.12	1002.33	LL3-066
067	559384.33	2371547.59	1003.47	LL3-067
070	559469.74	2371493.72	1001.97	LL3-070
3071	560810.45	2369995.91	1002.41	LL3-071
3072	560833.25	2370033.63	1001.17	LL3-072
073	560695.19	2370115.13	1001.78	LL3-073
074	560405.10	2370188.23	994.79	LL3-074
3075	560320.74	2370169.02	995.27	LL3-075
076	560522.35	2370127.91	1001.56	LL3-076
077	560371.35	2370194.14	1001.92	LL3-077
3078	559748.13	2370562.60	1001.99	LL3-078
3079	558863.38	2371050.58	1001.20	LL3-079
080	558217.80	2371405.46	1002.57	LL3-080
081	558157.89	2371462.36	1002.76	LL3-081
3082	558320.32	2371430.61	1005.70	LL3-082
3083	560206.15	2370368.96	1002.59	LL3-083
084	560120.68	2370329.74	1002.37	LL3-084
085	560196.09	2370326.46	1002.50	LL3-085
3086	560152.83	2370450.88	1007.52	LL3-086
087	560075.16	2370493.59	1006.91	LL3-087
088	560147.34	2370403.29	1002.92	LL3-088
089	559939.73	2370512.10	1003.00	LL3-089
3090	559951.42	2370474.64	1001.88	LL3-090
091	559970.53	2370412.50	1002.57	LL3-091
092	560023.11	2370385.12	1002.41	LL3-092
3093	560006.62	2370540.04	1007.16	LL3-093
3097	559832.31	2370695.91	1008.66	LL3-097
098	559771.04	2370732.18	1008.45	LL3-098
099	559754.87	2370695.08	1004.73	LL3-099
3100	559829.89	2370650.47	1006.65	LL3-100
3101	559513.58	2370727.47	1002.65	LL3-101
3102	559612.53	2370758.60	1003.07	LL3-102
3103	559688.23	2370905.57	1002.49	LL3-103
3104	559450.40	2370914.22	1002.09	LL3-0104
3105	559571.29	2370848.04	1001.73	LL3-105
3106	559530.94	2370776.41	1001.77	LL3-106
3111	559566.26	2370698.47	1002.81	LL3-111
3112	559650.50	2370748.48	1004.96	LL3-112
3113	559698.62	2370831.30	1006.76	LL3-113
3114	559577.21	2370932.42	1012.05	LL3-114
3115	559537.93	2370818.13	1006.57	LL3-115

List Nodes Report

Node #	North	East	Elev	Descrip
116	559512.25	2370777.74	1007.26	LL3-116
3117	559129.45	2370938.08	1001.66	LL3-117
3118	559286.90	2371066.36	1002.07	LL3-118
3119	559245.39	2371025.43	1003.51	LL3-119
3120	559338.16	2371208.28	1002.51	LL3-120
3121	559109.67	2371129.85	1001.59	LL3-121
3122	559080.12	2371044.22	1002.19	LL3-122
3126	559285.77	2371120.40	1002.23	LL3-126
3127	559251.13	2371061.97	1003.51	LL3-127
3128	559198.52	2370982.98	1004.22	LL3-128
3129	559194.53	2371186.88	1002.56	LL3-129
3130	559065.22	2371107.44	999.94	LL3-130
3131	559038.96	2371054.84	1000.05	LL3-131
3132	558835.76	2371105.02	1000.19	LL3-132
3133	558812.55	2371079.69	1001.11	LL3-133
3134	558774.24	2371086.84	1002.17	LL3-134
3135	558777.69	2371106.14	1001.84	LL3-135
3136	558577.17	2371187.54	1001.72	LL3-136
3137	558491.09	2371298.94	1002.67	LL3-137
3138	558392.81	2371353.78	1004.72	LL3-138
3139	558410.60	2371261.19	1002.17	LL3-139
3140	558501.25	2371213.20	1002.07	LL3-140
3142	558101.60	2371568.82	1003.49	LL3-142
3143	557884.59	2371687.53	1002.83	LL3-143
3144	557830.65	2371577.86	1002.48	LL3-144
3145	557983.64	2371492.60	1002.54	LL3-145
3146	559188.22	2370447.06	994.96	LL3-146
3147	559083.52	2370540.57	995.57	LL3-147
3148	560303.35	2369782.97	995.95	LL3-148
3149	560170.01	2369855.18	996.41	LL3-149
3150	558418.39	2370888.03	996.30	LL3-150
3151	558344.56	2370926.08	995.51	LL3-151
3152	559315.58	2371662.86	997.03	LL3-152
3153	559859.15	2371307.99	1002.69	LL3-153
3154	559450.84	2371496.97	1003.74	LL3-154
3155	559458.44	2371489.42	1001.28	LL3-155
3156	559220.04	2369238.61	972.67	LL3-156
3157	559889.70	2371288.90	1002.15	LL3-157
3158	559887.32	2371322.70	1002.74	LL3-158
3159	559848.14	2371247.95	1004.30	LL3-159
3160	559852.83	2371237.81	1007.23	LL3-160
3161	559872.76	2371252.20	1005.46	LL3-161
3162	558908.59	2370543.91	988.15	LL3-162
3163	558860.24	2370503.21	986.71	LL3-163
3184	558661.96	2371903.76	1005.32	LL3-184
3185	558847.51	2371978.33	1006.91	LL3-185
3186	558622.88	2372028.80	1004.42	LL3-186
3187	558540.22	2372007.23	1003.71	LL3-187
3188	558546.46	2372069.20	1003.67	LL3-188
3189	558539.17	2372137.28	1005.51	LL3-189
3190	558426.10	2372111.47	1003.37	LL3-190
3191	558363.19	2372195.66	1005.98	LL3-191
3192	558298.47	2372116.79	1001.15	LL3-192
3193	558267.69	2372195.07	1005.66	LL3-193

List Nodes Report

Node #	North	East	Elev	Descrip
194	558202.47	2372070.87	1004.52	LL3-194
3195	558167.11	2372127.61	1004.51	LL3-195
3196	557999.14	2372190.16	1005.90	LL3-196
197	557886.11	2372070.19	1002.38	LL3-197
198	557825.08	2372116.08	1003.07	LL3-198
3199	557594.79	2372169.89	1003.22	LL3-199
3200	560950.01	2368832.38	974.98	LL3-200
3201	558997.65	2371937.01	1006.49	LL3-201
3202	557392.95	2371258.54	989.87	LL3-202
3203	558710.31	2370389.88	983.88	LL3-203
3204	559921.38	2369727.60	985.68	LL3-204
3205	561756.37	2370056.27	986.92	LL3-205
3208	559821.32	2370681.31	1005.00	LL3-208
3213	559254.05	2371164.68	1004.63	LL3-213
3214	559317.47	2371188.62	1006.04	LL3-214
3216	560274.39	2370164.57	997.24	LL3-216
3219	559535.69	2370629.65	996.36	LL3-219
3220	559074.07	2370958.85	997.29	LL3-220
3221	558868.19	2371089.35	990.58	LL3-221
3222	559278.71	2371583.20	997.65	LL3-222
3224	557764.43	2371553.75	996.00	LL3-224
3226	559770.58	2370686.80	1005.60	LL3-226
3227	559721.96	2370710.92	1005.44	LL3-227
3229	559755.09	2370712.48	1007.88	LL3-229
3230	559838.52	2371315.65	1001.92	LL3-230
3231	559904.81	2371279.64	1001.73	LL3-231
3232	561365.12	2369863.32	1000.41	LL3-232
3233	560750.64	2369933.58	1004.36	LL3-233
3234	560059.47	2370296.54	1006.56	LL3-234
3235	559811.55	2370642.38	1009.94	LL3-235
3236	559867.34	2371177.61	1011.17	LL3-236
3237	559327.11	2371474.81	1005.57	LL3-237
3238	559569.39	2370624.55	1006.91	LL3-238
3239	559101.84	2370894.17	1003.50	LL3-239
3240	558204.42	2371308.54	1007.52	LL3-240
3241	559299.00	2370332.94	994.65	LL3-241
3242	557035.28	2371993.44	999.32	LL3-242
3243	556688.50	2371532.06	991.16	LL3-243
3244	559808.68	2371331.09	1001.72	LL3-244
4013	555060.87	2365314.80	969.16	LL4-013
4021	555058.51	2365291.96	969.67	LL4-021
4044	555301.12	2361739.73	981.34	LL4-044
4048	555350.88	2363696.20	974.22	LL4-048
4049	555013.80	2364409.34	972.41	LL4-049
4050	554945.67	2365221.05	970.95	LL4-050
4051	554706.39	2365427.15	966.98	LL4-051
4056	554693.04	2365433.01	966.81	LL4-056
4057	554553.57	2365553.06	965.15	LL4-057
4058	553553.37	2365708.86	961.64	LL4-058
4068	554982.31	2363348.81	984.20	LL4-068
4069	554985.69	2363292.20	985.21	LL4-069
4070	554938.36	2363318.29	984.35	LL4-070
4071	555785.65	2364398.79	981.20	LL4-071
4072	555772.57	2364433.01	982.51	LL4-072

List Nodes Report

Node #	North	East	Elev	Descrip
4073	555751.95	2364410.40	985.10	LL4-073
4074	555771.36	2364386.83	982.37	LL4-074
4075	556000.14	2364917.03	983.42	LL4-075
4076	555977.07	2364936.94	984.50	LL4-076
4077	555965.74	2364926.25	985.02	LL4-077
4078	555974.98	2364896.46	983.76	LL4-078
4080	556111.83	2365187.21	984.30	LL4-080
4081	556121.04	2365210.81	984.33	LL4-081
4082	556093.51	2365229.73	984.77	LL4-082
4083	556069.77	2365199.68	983.26	LL4-083
4084	556053.02	2366153.39	984.44	LL4-084
4085	556131.84	2366165.74	984.22	LL4-085
4086	556074.02	2366306.29	983.95	LL4-086
4087	555997.46	2366287.59	984.06	LL4-087
4088	556159.40	2366411.60	984.51	LL4-088
4089	556085.42	2366592.66	984.56	LL4-089
4090	555972.57	2366658.42	982.77	LL4-090
4091	556107.27	2366341.01	983.97	LL4-091
4092	555470.83	2366167.38	984.51	LL4-092
4093	555111.94	2364125.21	977.67	LL4-093
4094	555107.69	2364107.86	977.37	LL4-094
4095	555046.77	2364150.69	979.32	LL4-095
4096	554967.92	2364162.30	979.63	LL4-096
4097	555002.40	2364055.16	979.57	LL4-097
4098	555025.96	2364110.65	979.35	LL4-098
4100	554908.02	2364029.43	979.04	LL4-100
4101	554861.73	2363910.84	980.04	LL4-101
4102	554951.58	2363905.49	980.67	LL4-102
4103	555047.58	2363986.54	978.39	LL4-103
4104	555367.64	2364617.28	980.45	LL4-104
4105	555324.62	2364636.30	979.79	LL4-105
4106	555362.05	2364589.56	980.43	LL4-106
4107	555383.21	2364584.45	980.27	LL4-107
4110	555209.39	2364513.79	976.26	LL4-110
4111	555131.92	2364572.81	980.03	LL4-111
4112	555605.40	2365001.16	981.31	LL4-112
4113	555511.28	2364924.89	981.44	LL4-113
4114	555553.77	2364872.51	981.50	LL4-114
4115	555280.76	2365350.08	982.90	LL4-115
4116	555214.26	2365285.96	982.33	LL4-116
4117	555625.59	2365378.41	983.10	LL4-117
4118	555702.68	2365345.11	983.01	LL4-118
4121	555619.34	2365543.42	987.07	LL4-121
4122	555498.93	2365335.81	983.07	LL4-122
4126	555833.61	2366272.70	983.56	LL4-126
4127	555747.01	2366048.71	984.31	LL4-127
4128	555858.98	2366091.44	983.87	LL4-128
4130	555630.64	2366129.22	984.07	LL4-130
4131	555549.64	2366074.20	984.82	LL4-131
4132	555555.54	2366036.82	983.48	LL4-132
4133	555614.39	2366069.74	983.94	LL4-133
4136	555090.79	2365799.91	986.97	LL4-136
4137	555147.70	2365912.08	986.39	LL4-137
4138	554511.53	2364386.36	988.95	LL4-138

List Nodes Report

Node #	North	East	Elev	Descrip
139	554551.11	2364486.33	989.07	LL4-139
4140	556489.10	2365152.35	983.87	LL4-140
4141	555126.23	2365915.43	987.17	LL4-141
4142	555604.97	2365389.10	983.58	LL4-142
4143	555925.42	2364798.45	982.41	LL4-143
4144	555931.74	2364803.83	982.19	LL4-144
4145	555056.75	2365327.61	970.40	LL4-145
4157	554898.97	2363438.67	981.49	LL4-157
4167	554895.06	2363043.92	983.99	LL4-167
4168	556427.34	2364995.56	984.00	LL4-168
4169	555900.77	2367145.93	981.86	LL4-169
4170	555114.97	2366064.54	987.98	LL4-170
4171	554343.94	2364929.57	982.58	LL4-171
4172	554346.79	2364333.34	987.77	LL4-172
4177	555160.95	2364708.02	981.20	LL4-177
4185	556201.92	2366555.33	980.70	LL4-185
4189	555003.18	2365473.02	980.61	LL4-189
4193	554960.27	2364236.52	982.92	LL4-193
4194	555089.22	2364584.86	983.76	LL4-194
4195	555046.75	2365198.86	982.59	LL4-195
4196	555213.52	2365297.10	984.55	LL4-196
4197	555397.05	2365384.91	985.46	LL4-197
4198	555442.04	2364991.19	983.42	LL4-198
4199	554621.62	2365420.78	977.28	LL4-199
4200	554580.15	2365903.05	987.93	LL4-200
2122	561627.15	2373395.72	1008.96	LL2-122

TDS RAW DATA FILES

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 SS,OP200,FP2079,AR97.00230,ZE84.26350,SD39.820,--BOR LL2-079

JC,OP251,N 561905.69,E 2373625.97,EL1016.35,--TRAV PK
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 SS,OP251,FP2096,AR185.01080,ZE91.07280,SD113.220,--BOR LL2-096
 SS,OP251,FP2097,AR200.32500,ZE90.52480,SD101.060,--BOR LL2-097
 SS,OP251,FP2232,AR203.20420,ZE90.16510,SD98.300,--BOR LL2-232

JC,OP252,N 559364.22,E 2374564.67,EL1009.76,--TRAV PK
 BK,OP252,BP253,BS239.2808,BC0.0000
 .S,HI5.530,HR5.210
 SS,OP252,FP2178,AR98.45390,ZE90.11340,SD404.240,--BOR LL2-178

OC,OP253,N 559178.44,E 2374249.67,EL1003.78,--TRAV PK
 BK,OP253,BP252,BS59.2808,BC0.0000
 .S,HI5.520,HR25.350
 SS,OP253,FP2252,AR82.27540,ZE89.58000,SD529.240,--BOR LL2-252 WS

JC,OP201,N 561938.38,E 2374077.61,EL1008.66,--TRAV DLZ201
 BK,OP201,BP203,BS151.1449,BC0.0000
 .S,HI5.060,HR5.210
 SS,OP201,FP2244,AR124.21270,ZE85.43380,SD13.560,--BOR LL2-244
 .S,HI5.060,HR0.170
 SS,OP201,FP2241,AR300.15470,ZE97.54230,SD30.600,--BOR LL2-241
 SS,OP201,FP2094,AR235.13590,ZE98.18260,SD31.220,--BOR LL2-094
 SS,OP201,FP2253,AR210.31100,ZE94.56090,SD51.280,--BOR LL2-253

OC,OP202,N 561584.44,E 2374286.04,EL1009.00,--TRAV DLZ202
 BK,OP202,BP203,BS152.4439,BC0.0000
 .S,HI4.970,HR5.210
 SS,OP202,FP2080,AR112.25290,ZE88.56280,SD65.100,--BOR LL2-080
 SS,OP202,FP2081,AR52.40560,ZE89.23430,SD59.840,--BOR LL2-081
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 OF,AR71.4218,ZE89.3326,SD86.440
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 SS,OP202,FP2082,AR67.44030,ZE89.33300,SD86.648,--BOR LL2-082

JC,OP203,N 561160.07,E 2374504.66,EL1008.55,--TRAV DLZ203
 BK,OP203,BP202,BS332.4439,BC0.0000
 .S,HI5.060,HR5.210
 SS,OP203,FP2087,AR282.57180,ZE88.03440,SD50.560,--BOR LL2-087

OC,OP207,N 563648.69,E 2374378.53,EL1006.83,--TRAV DLZ207
 BK,OP207,BP206,BS167.4239,BC0.0000
 .S,HI5.030,HR5.210
 SS,OP207,FP2064,AR2.38130,ZE89.36370,SD135.800,--BOR LL2-064
 .S,HI5.030,HR12.100
 SS,OP207,FP2065,AR24.48280,ZE86.28370,SD132.440,--BOR LL2-065

OC,OP208,N 563502.90,E 2374304.15,EL999.63,--TRAV DLZ208
 BK,OP208,BP207,BS27.0147,BC0.0000
 .S,HI4.930,HR5.210

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JS,OP208,FP2181,AR194.28180,ZE90.42510,SD13.980,--BOR LL2-181
 LS,HI4.930,HR6.000
 SS,OP208,FP2180,AR229.41240,ZE88.38000,SD45.420,--BOR LL2-180
 SS,OP208,FP2179,AR197.18450,ZE88.22080,SD81.180,--BOR LL2-179
 LS,HI4.930,HR17.850
 JS,OP208,FP2072,AR162.20560,ZE83.57570,SD158.020,--BOR LL2-072

 JC,OP209,N 562391.490,E 2373151.28,EL1010.94,--TRAV DLZ-209
 BK,OP209,BP210,BS154.2654,BC0.0000
 LS,HI4.730,HR5.210
 SS,OP209,FP2105,AR89.48340,ZE91.15060,SD74.980,--BOR LL2-105

 JC,OP211,N 560748.420,E 2373860.87,EL1016.62,--TRAV DLZ-211
 BK,OP211,BP212,BS161.0038,BC0.0000
 LS,HI4.640,HR5.210
 JS,OP211,FP2150,AR263.46340,ZE93.23270,SD115.180,--BOR LL2-150

 JC,OP213,N 560846.56,E 2374030.05,EL1013.68,--TRAV DLZ-213
 BK,OP213,BP211,BS239.5256,BC0.0000
 LS,HI4.940,HR7.000
 SS,OP213,FP2149,AR279.30420,ZE96.12140,SD14.480,--BOR LL2-149

 JC,OP214,N 560895.87,E 2374118.38,EL1013.65,--TRAV DLZ-214
 BK,OP214,BP213,BS77.2042,BC0.0000
 LS,HI5.070,HR8.000
 SS,OP214,FP2147,AR105.23390,ZE92.46470,SD35.480,--BOR LL2-147

 JC,OP250,N 561385.62,E 2373780.95,EL1012.59,--TRAV DLZ-250
 BK,OP250,BP249,BS270.3121,BC0.0000
 LS,HI5.090,HR5.210
 JS,OP250,FP2273,AR38.55370,ZE90.41440,SD65.640,--BOR LL2-273

 JC,OP247,N 561439.700,E 2373868.24,EL1011.18,--TRAV DLZ-247
 BK,OP247,BP248,BS303.0535,BC0.0000
 LS,HI4.860,HR5.210
 SS,OP247,FP2258,AR219.04470,ZE90.52090,SD88.060,--BOR LL2-258
 LS,HI4.860,HR8.700
 JS,OP247,FP2133,AR227.31170,ZE89.32300,SD85.760,--BOR LL2-133

 JC,OP246,N 561788.55,E 2373498.72,EL1016.72,--TRAV DLZ-246
 BK,OP246,BP248,BS136.0105,BC0.0000
 LS,HI5.040,HR5.210
 SS,OP246,FP2121,AR71.26210,ZE92.51120,SD156.000,--BOR LL2-121
 LS,HI5.010,HR25.360
 JS,OP246,FP2122,AR76.31360,ZE86.14130,SD191.880,--BOR LL2-122

 JC,OP150,N 559161.27,E 2374772.55,EL1006.19,--TRAV DLZ-150
 BK,OP150,BP151,BS13.4958,BC0.0000
 LS,HI4.910,HR5.810
 SS,OP150,FP2185,AR87.45190,ZE110.52440,SD46.480,--BOR LL2-185 WS
 LS,HI4.910,HR17.860
 JS,OP150,FP2183,AR273.32130,ZE94.53380,SD38.080,--BOR LL2-183 WS

 JC,OP152,N 559538.15,E 2374865.37,EL1007.42,--TRAV DLZ-152
 BK,OP152,BP150,BS193.5009,BC0.0000
 LS,HI4.900,HR25.360
 JS,OP152,FP2001,AR234.47040,ZE86.02290,SD44.280,--BOR LL2-048 WS
 SS,OP152,FP2249,AR135.22350,ZE78.47250,SD49.360,--BOR LL2-249 WS

 JC,OP154,N 563177.660,E 2372588.33,EL1007.75,--TRAV DLZ-154

3K,OP154,BP153,BS174.4541,BC0.0000

_S,HI4.810,HR13.910

SS,OP154,FP2046,AR289.24410,ZE100.09460,SD44.700,--BOR LL2-046 WS

OC,OP157,N 564059.62,E 2372977.09,EL988.14,--TRAV DLZ-157

3K,OP157,BP158,BS52.1120,BC0.0000

LS,HI4.750,HR13.910

SS,OP157,FP2234,AR292.47120,ZE83.32580,SD27.360,--BOR LL2-234 WS

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OC,OP300,N 558856.280,E 2371013.550,EL1001.73,--TRAV 300
BK,OP300,BP301,BS158.1746,BC0.0000
LS,HI4.630,HR2.000
SS,OP300,FP3079,AR280.51080,ZE94.47360,SD37.840,--BOR LL3-079

OC,OP303,N 558784.81,E 2371080.26,EL1002.41,--TRAV 303
BK,OP303,BP301,BS176.2506,BC0.0000
LS,HI4.630,HR5.210
SS,OP303,FP3135,AR288.57480,ZE89.58410,SD26.840,--BOR LL3-135
SS,OP303,FP3134,AR331.40160,ZE88.26360,SD12.460,--BOR LL3-134
SS,OP303,FP3133,AR182.24200,ZE91.29280,SD27.760,--BOR LL3-133
LS,HI4.630,HR3.000
SS,OP303,FP3132,AR209.30060,ZE93.53020,SD56.780,--BOR LL3-132

OC,OP301,N 558670.74,E 2371087.40,EL1001.93,--TRAV 301
BK,OP301,BP303,BS356.2606,BC0.0000
LS,HI4.990,HR10.000
SS,OP301,FP3136,AR136.37250,ZE87.59350,SD137.140,--BOR LL3-136

OC,OP304,N 559915.03,E 2370474.99,EL1002.00,--TRAV 304
BK,OP304,BP302,BS201.2346,BC0.0000
LS,HI4.590,HR5.210
SS,OP304,FP3090,AR158.03130,ZE89.12470,SD36.400,--BOR LL3-090

OC,OP310,N 559245.35,E 2371054.05,EL1003.64,--TRAV 310
BK,OP310,BP311,BS235.5109,BC0.0000
LS,HI5.060,HR5.210
SS,OP310,FP3128,AR0.45550,ZE89.30210,SD85.120,--BOR LL3-128
SS,OP310,FP3119,AR34.13080,ZE89.57520,SD28.620,--BOR LL3-119
SS,OP310,FP3127,AR178.01430,ZE89.53250,SD9.800,--BOR LL3-127
SS,OP310,FP3118,AR140.39040,ZE91.52130,SD43.360,--BOR LL3-118
LS,HI5.060,HR8.700
SS,OP310,FP3126,AR182.47570,ZE88.21120,SD77.720,--BOR LL3-126

OC,OP313,N 559307.45,E 2371183.13,EL1003.19,--TRAV 313
BK,OP313,BP312,BS163.5808,BC0.0000
LS,HI4.940,HR5.210
SS,OP313,FP3120,AR235.21050,ZE90.35560,SD39.700,--BOR LL3-120
SS,OP313,FP3214,AR224.43520,ZE74.43500,SD11.840,--BOR LL3-214 WS

OC,OP318,N 559503.26,E 2370822.54,EL1024.05,--TRAV 318
BK,OP318,BP319,BS69.2200,BC0.0000
LS,HI4.730,HR10.000
SS,OP318,FP3106,AR231.36180,ZE107.32380,SD56.420,--BOR LL3-106
LS,HI4.730,HR8.700
SS,OP318,FP3116,AR211.59010,ZE105.40300,SD47.460,--BOR LL3-116
LS,HI4.730,HR12.100
SS,OP318,FP3115,AR283.22390,ZE106.07470,SD36.380,--BOR LL3-115

OC,OP319,N 559542.68,E 2370927.23,EL1023.10,--TRAV 319
BK,OP319,BP318,BS249.2200,BC0.0000
LS,HI4.980,HR12.100
SS,OP319,FP3105,AR40.29360,ZE99.36300,SD85.400,--BOR LL3-105
SS,OP319,FP3114,AR119.10310,ZE96.25150,SD35.140,--BOR LL3-114

OC,OP314,N 559466.00,E 2370881.58,EL1006.91,--TRAV 314
BK,OP314,BP319,BS30.4551,BC0.0000

LS,HI5.090,HR5.210
SS,OP314,FP3104,AR84.46560,ZE97.23440,SD36.480,--BOR LL3-0104

OC,OP317,N 559821.18,E 2371284.67,EL1002.95,--TRAV 317
BK,OP317,BP316,BS177.1533,BC0.0000
LS,HI4.870,HR5.210
SS,OP317,FP3059,AR237.42400,ZE90.21160,SD23.400,--BOR LL3-059

OC,OP305,N 560758.36,E 2370204.75,EL1009.05,--TRAV 305
BK,OP305,BP501,BS302.5616,BC0.0000
LS,HI4.910,HR6.300
SS,OP305,FP3073,AR291.52550,ZE93.04020,SD109.800,--BOR LL3-073

OC,OP320,N 560501.02,E 2370086.20,EL1001.85,--TRAV 320
BK,OP320,BP321,BS327.2006,BC0.0000
LS,HI4.710,HR0.570
SS,OP320,FP3076,AR95.34580,ZE95.24150,SD47.060,--BOR LL3-076

OC,OP322,N 559662.68,E 2370793.73,EL1007.34,--TRAV 322
BK,OP322,BP323,BS38.5647,BC0.0000
LS,HI4.860,HR5.210
SS,OP322,FP3102,AR176.03560,ZE93.39590,SD61.360,--BOR LL3-102

OC,OP326,N 558560.45,E 2370683.49,EL989.27,--TRAV 326
BK,OP326,BP327,BS330.2850,BC0.0000
LS,HI4.970,HR12.020
SS,OP326,FP3049,AR32.56420,ZE87.47010,SD39.600,--BOR LL3-049 WS

OC,OP328,N 560304.68,E 2370219.58,EL1002.01,--TRAV 328
BK,OP328,BP320,BS325.4838,BC0.0000
LS,HI5.090,HR12.100
SS,OP328,FP3216,AR275.21180,ZE87.57390,SD62.840,--BOR LL3-216 WS

OC,OP328,N 560304.68,E 2370219.58,EL1002.01,--TRAV 328
BK,OP328,BP305,BS358.0740,BC0.0000
LS,HI5.510,HR10.000
SS,OP328,FP3074,AR344.32020,ZE91.29100,SD105.240,--BOR LL3-074
SS,OP328,FP3075,AR289.29480,ZE92.25270,SD53.100,--BOR LL3-075

OC,OP322,N 559662.68,E 2370793.73,EL1007.34,--TRAV 322
BK,OP322,BP323,BS38.5647,BC0.0000
LS,HI5.240,HR5.210
SS,OP322,FP3112,AR215.59230,ZE92.56390,SD46.920,--BOR LL3-112

OC,OP330,N 559865.920,E 2371339.55,EL1002.89,--TRAV 330
BK,OP330,BP331,BS329.2451,BC0.0000
LS,HI5.590,HR1.000
SS,OP330,FP3231,AR333.34240,ZE94.36000,SD71.660,--BOR LL3-231
LS,HI5.590,HR5.210
SS,OP330,FP3058,AR312.38270,ZE91.32290,SD42.620,--BOR LL3-058
LS,HI5.590,HR8.700
SS,OP330,FP3157,AR325.44040,ZE87.34410,SD56.000,--BOR LL3-157
LS,HI5.590,HR5.210
SS,OP330,FP3153,AR288.28250,ZE91.01150,SD32.280,--BOR LL3-153
LS,HI5.590,HR1.000
SS,OP330,FP3230,AR251.41000,ZE98.42090,SD36.780,--BOR LL3-230
LS,HI5.590,HR2.000
SS,OP330,FP3244,AR218.59190,ZE94.42060,SD58.060,--BOR LL3-244
LS,HI5.590,HR5.210
SS,OP330,FP3158,AR352.22390,ZE91.07290,SD27.240,--BOR LL3-158

OC,OP331,N 560475.65,E 2370979.16,EL1002.67,--TRAV 331
BK,OP331,BP330,BS149.2451,BC0.0000
LS,HI5.370,HR5.210
SS,OP331,FP3055,AR3.11570,ZE90.04170,SD298.820,--BOR LL3-055
SS,OP331,FP3054,AR37.58520,ZE90.12310,SD55.100,--BOR LL3-054

OC,OP332,N 559900.44,E 2371234.68,EL1008.06,--TRAV 332
BK,OP332,BP333,BS223.2011,BC0.0000
LS,HI5.320,HR5.210
SS,OP332,FP3063,AR273.42580,ZE96.11020,SD40.540,--BOR LL3-063
SS,OP332,FP3057,AR241.55390,ZE96.36040,SD39.660,--BOR LL3-057

OC,OP230,N 559543.50,E 2370605.51,EL1003.67,--TRAV 230
BK,OP230,BP229,BS338.3640,BC0.0000
LS,HI5.320,HR6.000
SS,OP230,FP3219,AR129.19410,ZE104.38180,SD26.220,--BOR LL3-219 WS

OC,OP300,N 558856.28,E 2371013.55,EL1001.73,--TRAV 300
BK,OP300,BP303,BS136.5823,BC0.0000
LS,HI5.260,HR11.000
SS,OP300,FP3221,AR304.05580,ZE94.01510,SD76.920,--BOR LL3-221 WS

OC,OP334,N 559117.60,E 2370921.51,EL1002.06,--TRAV 334
BK,OP334,BP300,BS29.1122,BC0.0000
LS,HI5.410,HR7.000
SS,OP334,FP3220,AR110.11170,ZE93.10300,SD57.440,--BOR LL3-220 WS

OC,OP335,N 557809.79,E 2371565.15,EL1001.84,--TRAV 335
BK,OP335,BP336,BS144.5647,BC0.0000
LS,HI5.530,HR12.100
SS,OP335,FP3224,AR49.09290,ZE89.06230,SD46.780,--BOR LL3-224 WS

OC,OP337,N 559300.22,E 2371652.50,EL1002.42,--TRAV 337
BK,OP337,BP330,BS331.0254,BC0.0000
LS,HI5.550,HR12.100
SS,OP337,FP3152,AR62.57420,ZE86.25460,SD18.560,--BOR LL3-152 WS

OC,OP312,N 559261.51,E 2371196.33,EL1003.02,--TRAV 312
BK,OP312,BP313,BS343.5808,BC0.0000
LS,HI5.530,HR5.210
SS,OP312,FP3213,AR272.45560,ZE87.44020,SD32.540,--BOR LL3-213 WS

OC,OP392,N 559402.77,E 2368943.51,EL971.87,--TRAV 392
BK,OP392,BP390,BS222.5354,BC0.0000
LS,HI4.720,HR4.900
SS,OP392,FP3156,AR258.52040,ZE89.50160,SD347.100,--BOR LL3-156

B,NMLL4,DT9-25-2001,TM19:28:24.14
IO,AD0,UN0,SF1.00000000,EC0,E00.0

OC,OP400,N 555288.01,E 2364474.45,EL980.53,--TRAV 400
BK,OP400,BP401,BS144.3458,BC0.0000
LS,HI4.840,HR5.210
SS,OP400,FP4111,AR3.12040,ZE90.02200,SD184.500,--BOR LL4-111

OC,OP31,N 555100.99,E 2364060.96,EL978.31,--TRAV TR431-GPS31
BK,OP31,BP402,BS246.4542,BC0.0000
LS,HI4.930,HR1.000
SS,OP31,FP4097,AR296.36240,ZE91.32480,SD98.800,--BOR LL4-097
SS,OP31,FP4098,AR259.43270,ZE91.50220,SD90.040,--BOR LL4-098
LS,HI4.930,HR17.850
SS,OP31,FP4095,AR234.22490,ZE82.25580,SD105.760,--BOR LL4-095

OC,OP404,N 555588.81,E 2366179.42,EL984.17,--TRAV 404
BK,OP404,BP403,BS337.5619,BC0.0000
LS,HI4.870,HR5.210
SS,OP404,FP4131,AR271.38350,ZE89.29440,SD112.280,--BOR LL4-131

OC,OP405,N 554828.04,E 2363846.26,EL980.54,--TRAV 405
BK,OP405,BP402,BS03.5223,BC0.0000
LS,HI5.080,HR5.210
SS,OP405,FP4100,AR62.32180,ZE90.23310,SD199.880,--BOR LL4-100
SS,OP405,FP4101,AR58.34330,ZE90.17220,SD72.840,--BOR LL4-101

OC,OP409,N 555472.85,E 2364909.73,EL997.76,--TRAV 409
BK,OP409,BP408,BS319.3835,BC0.0000
LS,HI4.300,HR7.000
SS,OP409,FP4114,AR15.39270,ZE98.39270,SD90.100,--BOR LL4-114
SS,OP409,FP4113,AR61.53280,ZE108.14500,SD43.500,--BOR LL4-113

OC,OP406,N 555589.53,E 2365032.36,EL997.22,--TRAV 406
BK,OP406,BP407,BS162.0049,BC0.0000
LS,HI4.590,HR12.100
SS,OP406,FP4112,AR134.56260,ZE103.29490,SD36.000,--BOR LL4-112

OC,OP450,N 555826.96,E 2367104.27,EL983.96,--TRAV 450
BK,OP450,BP451,BS112.4116,BC0.0000
LS,HI4.980,HR5.210
SS,OP450,FP4169,AR276.45160,ZE91.15500,SD84.780,--BOR LL4-169 TP3

OC,OP412,N 554653.06,E 2365458.69,EL976.05,--TRAV 412
BK,OP412,BP413,BS212.5230,BC0.0000
LS,HI4.930,HR5.210
SS,OP412,FP4057,AR283.38150,ZE94.25420,SD137.540,--BOR LL4-057 WS

OC,OP413,N 554612.12,E 2365432.23,EL975.52,--MGS 413
BK,OP413,BP412,BS32.5230,BC0.0000
LS,HI5.050,HR12.100
SS,OP413,FP4056,AR327.40480,ZE91.10300,SD80.940,--BOR LL4-056
SS,OP413,FP4051,AR324.02240,ZE90.54240,SD94.420,--BOR LL4-051 SED

OC,OP415,N 555978.52,E 2364960.14,EL997.26,--TRAV 415
BK,OP415,BP414,BS256.1245,BC0.0000
LS,HI4.540,HR12.100
SS,OP415,FP4076,AR10.12390,ZE102.36530,SD23.820,--BOR LL4-076
SS,OP415,FP4077,AR353.07110,ZE97.21520,SD36.520,--BOR LL4-077

OC,OP414,N 555957.75,E 2364875.50,EL997.61,--TRAV 414
BK,OP414,BP415,BS76.1245,BC0.0000
LS,HI4.670,HR12.100
SS,OP414,FP4078,AR334.21570,ZE103.18510,SD27.880,--BOR LL4-078
SS,OP414,FP4144,AR173.50200,ZE95.59090,SD76.660,--BOR LL4-144 SED
SS,OP414,FP4143,AR171.01240,ZE95.18340,SD83.920,--BOR LL4-143 6" VCP

OC,OP452,N 556159.49,E 2366535.41,EL984.15,--TRAV 452
BK,OP452,BP453,BS113.2012,BC0.0000
LS,HI4.990,HR5.210
SS,OP452,FP4185,AR271.48490,ZE93.56110,SD46.980,--BOR LL4-185 WS

OC,OP410,N 555322.80,E 2364457.24,EL981.29,--TRAV 410
BK,OP410,BP401,BS147.4126,BC0.0000
LS,HI5.030,HR25.360
SS,OP410,FP4107,AR276.54170,ZE82.11380,SD142.140,--BOR LL4-107
SS,OP410,FP4106,AR285.47170,ZE81.58130,SD139.380,--BOR LL4-106
SS,OP410,FP4104,AR286.39320,ZE83.18400,SD167.340,--BOR LL4-104

OC,OP31,N 555100.99,E 2364060.96,EL978.31,--PKS TR431-GPS31
BK,OP31,BP402,BS246.4542,BC0.0000
LS,HI4.980,HR4.900
SS,OP31,FP4103,AR347.34220,ZE90.00080,SD91.600,--BOR LL4-103

OC,OP417,N 554656.06,E 2364364.31,EL982.64,--TRAV 417
BK,OP417,BP416,BS269.3844,BC0.0000
LS,HI4.650,HR21.650
SS,OP417,FP4139,AR221.03120,ZE81.42580,SD162.640,--BOR LL4-139
LS,HI4.650,HR9.890
SS,OP417,FP4138,AR261.40420,ZE85.28530,SD146.660,--BOR LL4-138

OC,OP415,N 555978.52,E 2364960.14,EL997.26,--TRAV 415
BK,OP415,BP414,BS256.1245,BC0.0000
LS,HI4.740,HR25.360
SS,OP415,FP4083,AR172.56020,ZE88.31140,SD256.420,--BOR LL4-083
SS,OP415,FP4081,AR164.10010,ZE88.28190,SD288.460,--BOR LL4-081
SS,OP415,FP4075,AR40.25450,ZE81.59370,SD48.700,--BOR LL4-075

OC,OP419,N 555651.05,E 2365466.96,EL986.12,--TRAV 419
BK,OP419,BP418,BS89.0613,BC0.0000
LS,HI4.950,HR9.890
SS,OP419,FP4121,AR23.25230,ZE85.55350,SD82.980,--BOR LL4-121
SS,OP419,FP4117,AR164.51290,ZE88.48230,SD92.160,--BOR LL4-117

GPS DATA FILES

STAR*NET-GPS Version 5.112
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Summary of Files Used

Project Directory	D:\0122\6017
Input Data File	RAV.DAT
Output Listing (This File)	RAV.LST
Coordinates	RAV.PTS
Project Parameters	RAV.PRJ
Error Log	RAV.ERR
Plot File	RAV.SPL

Adjustment Options

STAR*NET Run Mode	: Adjust Only
Type of Adjustment	: 3D
Input Order for Coordinates	: N,E,Elev
Coordinate System	: Lambert NAD83 OH North 3401
Avg Project Geoid Height in Meters	: 0.0000
Linear Units	: US Feet
Input Order for Angle Stations	: At-From-To
Max Iterations; Convergence Limit	: 10; 0.0100
Correct Zeniths for Curve & Refract	: No
Adjust 3D Obs for Vert Divergence	: No
3D Data Input Mode	: Slope/Zenith
Earth Radius	: 20906000.000 US Feet
Coefficient of Refraction	: 0.070
Geoid Modeling	: Yes
GPS Vector Std Error Factors	: 10.0000
GPS Vector Centering (Meters)	: 0.01000
GPS Vector Transformations	: None

Adjusted Positions and Ellipsoid Heights (US Feet)

Station	Latitude	Longitude	Ellip Ht	Geoid Ht
RAV2	41-11-27.424987	81-05-07.641203	951.0317	-110.5783
RA11	41-11-10.817721	81-01-59.439132	888.0255	-110.7045
1	41-10-52.852284	81-03-21.646643	876.7627	-110.6411
2	41-11-15.469870	81-02-11.399696	881.7355	-110.6983
3	41-11-33.429544	81-02-23.794593	880.3799	-110.6969
0005	41-11-07.383013	81-02-08.337598	878.7135	-110.6972
0006	41-12-06.113371	81-01-49.684066	899.1954	-110.7323
0008	41-11-41.562334	81-01-45.932168	902.1700	-110.7247
1030	41-11-41.954910	81-01-45.493869	898.8222	-110.7251
0009	41-11-41.562379	81-01-45.931672	902.2006	-110.7247
1011	41-11-07.378693	81-02-08.344510	880.4612	-110.6972
1000	41-11-38.640971	81-02-18.808868	899.9952	-110.7023
1012	41-11-38.380264	81-02-19.294903	899.2352	-110.7019
1013	41-11-38.842751	81-02-12.282259	900.4677	-110.7066
1014	41-11-53.857577	81-02-29.144564	889.7044	-110.7021
1015	41-11-57.691080	81-02-26.535104	876.2175	-110.7054
1016	41-11-49.926645	81-02-42.719920	864.2853	-110.6919
1017	41-11-39.616606	81-02-31.235604	874.9839	-110.6949
1018	41-11-27.542343	81-02-22.838614	873.1812	-110.6955
1019	41-11-14.383692	81-02-11.766812	879.1703	-110.6976
1020	41-11-34.458628	81-01-25.554830	900.8831	-110.7351
1021	41-11-47.871994	81-01-33.108745	906.5458	-110.7353
1022	41-11-51.189759	81-01-28.110437	901.1363	-110.7398
1023	41-11-55.352874	81-01-31.189521	900.7333	-110.7395
1024	41-12-01.615798	81-01-35.220937	901.8776	-110.7395
1025	41-11-59.314320	81-01-38.240671	905.5406	-110.7366
1026	41-11-53.500892	81-01-38.768906	904.0808	-110.7340
1027	41-11-58.554819	81-01-43.852325	900.6683	-110.7328
1031	41-11-41.951535	81-01-45.497073	900.5292	-110.7251
1032	41-12-03.426888	81-02-00.298035	894.6505	-110.7245
1033	41-12-22.224103	81-01-48.713890	873.9507	-110.7398
1034	41-12-09.137867	81-01-22.227002	896.5315	-110.7506
1035	41-11-29.253897	81-01-23.184941	876.2953	-110.7353
0010	41-12-03.180329	81-02-00.859942	893.7507	-110.7240
0011	41-12-09.531531	81-01-22.147638	897.7120	-110.7508
0012	41-11-28.955468	81-01-22.402780	876.4016	-110.7356
500	41-12-09.467274	81-01-23.482282	896.7505	-110.7500
205	41-12-12.087831	81-01-28.960280	898.5161	-110.7476
2073	41-12-12.793832	81-01-30.086613	899.6486	-110.7473
2074	41-12-10.646738	81-01-31.140764	894.4362	-110.7457
2076	41-12-10.520931	81-01-34.312183	893.5748	-110.7437
2068	41-12-07.574488	81-01-39.010453	897.7830	-110.7396
2069	41-12-06.771103	81-01-41.158576	899.8809	-110.7379
2104	41-12-04.211245	81-01-46.173416	900.6906	-110.7337
2103	41-12-04.517869	81-01-47.506832	899.2390	-110.7330
2217	41-12-05.534928	81-01-48.184962	898.3181	-110.7330
2102	41-12-05.538233	81-01-48.365902	898.6962	-110.7329
2107	41-12-02.263813	81-01-46.978967	899.7134	-110.7324
2115	41-11-57.980568	81-01-44.244833	898.4709	-110.7323
2116	41-11-58.280065	81-01-43.641475	898.6519	-110.7328
2117	41-11-58.126103	81-01-42.628725	902.5575	-110.7334
2119	41-11-57.335476	81-01-42.290033	899.5936	-110.7333
2118	41-11-57.176139	81-01-42.777313	898.9580	-110.7329
2120	41-11-56.651171	81-01-42.431690	898.8879	-110.7329
2132	41-11-53.411954	81-01-37.231669	898.9359	-110.7349

2141	41-11-53.664164	81-01-37.906276	901.1333	-110.7346
2140	41-11-53.503153	81-01-38.483089	900.8478	-110.7342
2272	41-11-53.404318	81-01-38.519509	901.2205	-110.7341
2131	41-11-52.909723	81-01-38.516181	889.0725	-110.7339
2128	41-11-52.995714	81-01-38.567513	899.8999	-110.7339
2127	41-11-53.155505	81-01-38.925776	901.2490	-110.7337
2139	41-11-53.017946	81-01-39.356404	900.8991	-110.7334
2130	41-11-52.628095	81-01-39.215404	899.0177	-110.7333
2130	41-12-01.619828	81-01-35.229671	900.3853	-110.7395
2255	41-11-55.031743	81-01-32.559632	898.9252	-110.7385
2086	41-11-55.216323	81-01-32.532671	898.9237	-110.7386
2257	41-11-55.159594	81-01-32.747172	898.8303	-110.7384
2080	41-11-55.371830	81-01-32.089603	899.0861	-110.7389
2256	41-11-55.370188	81-01-32.658260	898.8608	-110.7386
2271	41-11-59.387018	81-01-38.639826	901.6207	-110.7364
2131	41-11-59.306346	81-01-38.248357	903.3562	-110.7366
2100	41-12-00.462410	81-01-35.169826	898.8386	-110.7390
201	41-11-58.821094	81-01-33.894680	897.9195	-110.7392
202	41-11-55.289533	81-01-31.246579	898.2636	-110.7394
203	41-11-51.060437	81-01-28.480892	897.8115	-110.7395
1010	41-11-50.859614	81-01-28.698741	898.5247	-110.7393
2176	41-11-35.027449	81-01-26.737304	899.1481	-110.7345
2188	41-11-37.386264	81-01-28.338333	899.8097	-110.7344
2175	41-11-37.645851	81-01-28.559709	899.9643	-110.7343
2187	41-11-37.682317	81-01-27.335843	897.2316	-110.7351
2180	41-11-37.461507	81-01-27.294191	897.9881	-110.7351
2169	41-11-39.288265	81-01-27.842489	898.9786	-110.7354
2171	41-11-38.399795	81-01-28.127103	898.5297	-110.7349
2113	41-11-38.222775	81-01-30.064458	899.1100	-110.7336
2109	41-11-38.945581	81-01-30.520988	898.3216	-110.7336
2172	41-11-38.130768	81-01-27.407718	897.0224	-110.7352
2189	41-11-38.731036	81-01-25.727086	894.0666	-110.7365
2114	41-11-39.904200	81-01-30.370149	902.3108	-110.7340
2165	41-11-40.028140	81-01-30.999243	899.1603	-110.7337
2164	41-11-42.575792	81-01-32.626240	899.1639	-110.7336
2148	41-11-48.400979	81-01-33.454009	899.5179	-110.7353
2099	41-11-49.058439	81-01-32.012845	900.2578	-110.7365
2098	41-11-49.354853	81-01-31.907082	896.7943	-110.7367
2152	41-11-34.460976	81-01-25.563562	898.7593	-110.7351
2089	41-11-50.635853	81-01-29.459134	898.4717	-110.7387
2093	41-11-50.979694	81-01-29.531871	897.5149	-110.7388
2153	41-11-49.911145	81-01-32.007875	898.2517	-110.7368
2084	41-11-53.962199	81-01-34.399650	898.4472	-110.7369
2134	41-11-52.824934	81-01-36.531966	897.1249	-110.7351
2154	41-11-53.924249	81-01-34.360028	898.5757	-110.7369
2143	41-11-52.180660	81-01-37.732834	902.5725	-110.7341
2095	41-11-44.968438	81-01-24.991017	898.4949	-110.7394
2090	41-11-50.240462	81-01-29.180799	897.9660	-110.7387
2324	41-12-14.342828	81-01-29.312561	896.7706	-110.7483
2112	41-11-45.922223	81-01-35.688309	897.5112	-110.7329
2177	41-11-34.993564	81-01-28.572709	898.2551	-110.7333
2167	41-11-39.581279	81-01-31.722870	898.9972	-110.7330
2166	41-11-42.094523	81-01-33.472700	898.6045	-110.7329
2260	41-11-41.918053	81-01-33.829646	898.2682	-110.7326
2243	41-11-42.146118	81-01-33.504867	898.4229	-110.7329
2213	41-11-43.074403	81-01-34.378294	898.3142	-110.7327
2160	41-11-44.446250	81-01-34.345182	898.6104	-110.7332
2162	41-11-44.561377	81-01-34.603749	898.5907	-110.7331
2161	41-11-44.455426	81-01-34.840061	897.8028	-110.7329
2163	41-11-44.782364	81-01-34.589178	898.3853	-110.7332

2111	41-11-45.510028	81-01-35.366793	898.3721	-110.7330
2159	41-11-47.311227	81-01-34.749352	898.9222	-110.7341
2158	41-11-47.526253	81-01-33.819444	901.4150	-110.7347
56	41-11-46.481546	81-01-35.024492	898.6477	-110.7336
214	41-11-50.059960	81-01-37.361034	930.3322	-110.7335
2129	41-11-52.668859	81-01-38.940255	939.6084	-110.7335
2110	41-11-54.605104	81-01-40.513629	1011.5379	-110.7333
2215	41-11-54.695143	81-01-41.094456	1017.2529	-110.7330
2122	41-11-56.459878	81-01-42.332850	1027.7389	-110.7329
2216	41-11-58.274013	81-01-44.002328	1077.2310	-110.7326
2112	41-12-01.187257	81-01-46.711901	898.7703	-110.7321
217A	41-12-01.754980	81-01-47.127852	898.2601	-110.7321
2108	41-12-02.369058	81-01-47.493302	898.4274	-110.7321
2100	41-12-03.539450	81-01-48.301013	898.5398	-110.7321
2101	41-12-05.163052	81-01-49.547516	898.7151	-110.7320
57	41-12-01.059812	81-01-46.932511	898.8682	-110.7319
2066	41-12-08.507259	81-01-41.651631	897.0656	-110.7383
58	41-12-08.465574	81-01-41.981276	897.8170	-110.7381
2067	41-12-08.959076	81-01-40.494113	895.4174	-110.7392
2071	41-12-12.243609	81-01-32.270595	892.4856	-110.7457
206	41-12-14.931673	81-01-29.384988	897.1570	-110.7485
2106	41-12-02.475880	81-01-46.131717	899.6473	-110.7330
210	41-12-01.248255	81-01-44.576509	903.0926	-110.7335
209	41-12-03.452059	81-01-45.911434	900.2049	-110.7335
2156	41-11-49.199325	81-01-35.023997	902.7641	-110.7346
2155	41-11-48.848400	81-01-35.527660	902.5592	-110.7342
2146	41-11-48.574797	81-01-35.351460	898.9224	-110.7342
2154	41-11-48.527111	81-01-36.331115	902.9637	-110.7335
2145	41-11-48.232012	81-01-36.200524	898.8561	-110.7335
2157	41-11-49.399881	81-01-34.581374	902.5791	-110.7350
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3048	41-11-29.328388	81-02-20.930477	876.7033	-110.6975
3162	41-11-29.475797	81-02-20.780670	877.4535	-110.6977
327	41-11-28.161619	81-02-20.579481	879.8092	-110.6973
326	41-11-26.013225	81-02-19.031422	878.5694	-110.6974
3050	41-11-26.066979	81-02-18.709552	875.4679	-110.6977
3150	41-11-24.575864	81-02-16.387472	885.6035	-110.6986
3163	41-11-29.004864	81-02-21.323632	876.0151	-110.6971
3046	41-11-39.704369	81-02-28.224338	876.6730	-110.6967
341	41-11-33.358765	81-02-23.456404	881.7084	-110.6971
328	41-11-43.322148	81-02-24.716890	891.3086	-110.7004
230	41-11-35.738171	81-02-19.835879	892.9728	-110.7005
229	41-11-36.915454	81-02-20.416409	893.5097	-110.7006
329	41-11-46.212944	81-02-23.750917	901.1486	-110.7023
3149	41-11-42.051891	81-02-29.512550	885.7164	-110.6968
3151	41-11-23.840212	81-02-15.906041	884.8161	-110.6986
330	41-11-38.801873	81-02-10.164495	892.1827	-110.7080
331	41-11-44.885501	81-02-14.744383	891.9673	-110.7075
3154	41-11-34.675045	81-02-08.196703	893.0285	-110.7076
3185	41-11-28.634552	81-02-02.033704	896.2011	-110.7097
0132	41-11-39.160047	81-02-11.528839	897.3483	-110.7072
00DD	41-11-31.532498	81-02-15.766574	886.6719	-110.7014
334	41-11-31.478197	81-02-15.796282	891.3546	-110.7014
335	41-11-18.450949	81-02-07.665512	891.1363	-110.7020
336	41-11-17.065158	81-02-06.423882	892.0858	-110.7022
3242	41-11-10.728171	81-02-02.234532	888.6185	-110.7026
242	41-11-10.717551	81-02-02.236622	886.6920	-110.7026
3240	41-11-22.392249	81-02-10.934799	896.8158	-110.7014
240	41-11-22.391286	81-02-10.921367	894.9029	-110.7014
2219	41-11-51.154459	81-01-23.389280	904.2704	-110.7428
2231	41-11-49.230363	81-01-32.054250	896.3971	-110.7365
253	41-11-31.525673	81-01-32.254437	893.0477	-110.7296
252	41-11-33.308410	81-01-28.093500	899.0267	-110.7330
2052	41-11-21.404876	81-01-22.570345	861.5250	-110.7328
337	41-11-33.161160	81-02-06.195640	891.7159	-110.7083
3051	41-11-26.500321	81-02-29.235079	865.6790	-110.6909

150	41-10-59.597637	81-03-06.436311	873.3028	-110.6546
151	41-10-58.609254	81-03-03.447348	873.1917	-110.6563
207	41-12-15.667745	81-01-29.580145	896.0787	-110.7487
4143	41-11-00.946873	81-03-36.571181	871.8664	-110.6342
108	41-10-56.924344	81-03-35.718138	887.8755	-110.6331
117	41-10-48.477610	81-03-42.519812	872.0133	-110.6247
416	41-10-48.486181	81-03-43.618724	874.9270	-110.6239
119	41-10-58.127775	81-03-27.885772	875.4835	-110.6390
118	41-10-58.126920	81-03-26.698532	876.6003	-110.6398
4050	41-10-51.199151	81-03-31.253997	860.3167	-110.6339
333	41-11-38.090609	81-02-13.499354	897.6480	-110.7055
332	41-11-39.160372	81-02-11.528620	897.3549	-110.7072
1172	41-10-45.427267	81-03-42.991416	877.1461	-110.6230
4044	41-10-55.276799	81-04-16.702084	870.7405	-110.6025
3052	41-11-29.923588	81-02-31.877639	864.2301	-110.6907
3053	41-11-36.995692	81-02-43.813457	858.0277	-110.6856
390	41-11-33.740702	81-02-42.725498	865.8286	-110.6849
391	41-11-33.146873	81-02-43.249906	866.8925	-110.6843
			Average:	-110.6992

Statistical Summary
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Number of Stations = 433
Number of Observations = 2991
Number of Unknowns = 1293
Number of Redundant Obs = 1698

Observation	Count	Sum Squares of StdRes	Error Factor
GPS Deltas	2991	390.02	0.48
/ Total	2991	390.02	0.48

Adjustment Passes the Chi Square Test at 5% Level

Convergence Angles and Grid Factors at Stations

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(Grid Azimuth = Geodetic Azimuth - Convergence)

(Elevation Factor Includes a Geoid Height Correction at Each Station)

Station	Convergence Angle	Scale	x	Elevation	=	Combined
RAV2	0-55-45.43	0.99994145		0.99995451		0.99989596
RA11	0-57-49.07	0.99994128		0.99995752		0.99989880
	0-56-55.06	0.99994110		0.99995806		0.99989917
	0-57-41.21	0.99994132		0.99995783		0.99989915
3	0-57-33.07	0.99994151		0.99995789		0.99989940
0005	0-57-43.22	0.99994124		0.99995797		0.99989922
0006	0-57-55.47	0.99994187		0.99995699		0.99989886
0008	0-57-57.94	0.99994160		0.99995685		0.99989845
1030	0-57-58.23	0.99994160		0.99995701		0.99989861
0009	0-57-57.94	0.99994160		0.99995685		0.99989845
1011	0-57-43.22	0.99994124		0.99995789		0.99989913
1000	0-57-36.34	0.99994156		0.99995695		0.99989852
1012	0-57-36.02	0.99994156		0.99995699		0.99989855
1013	0-57-40.63	0.99994157		0.99995693		0.99989850
1014	0-57-29.55	0.99994173		0.99995744		0.99989918
1015	0-57-31.27	0.99994177		0.99995809		0.99989986
1016	0-57-20.63	0.99994169		0.99995866		0.99990035
1017	0-57-28.18	0.99994158		0.99995815		0.99989973
1018	0-57-33.69	0.99994145		0.99995823		0.99989969
1019	0-57-40.97	0.99994131		0.99995795		0.99989926
1020	0-58-11.33	0.99994152		0.99995691		0.99989843
1021	0-58-06.36	0.99994166		0.99995664		0.99989831
1022	0-58-09.65	0.99994170		0.99995690		0.99989860
1023	0-58-07.62	0.99994175		0.99995692		0.99989867
1024	0-58-04.98	0.99994182		0.99995686		0.99989868
1025	0-58-02.99	0.99994179		0.99995669		0.99989848
1026	0-58-02.65	0.99994173		0.99995676		0.99989849
1027	0-57-59.31	0.99994178		0.99995692		0.99989870
1031	0-57-58.23	0.99994160		0.99995693		0.99989853
1032	0-57-48.50	0.99994184		0.99995721		0.99989905
1033	0-57-56.11	0.99994205		0.99995820		0.99990025
1034	0-58-13.51	0.99994190		0.99995712		0.99989902
1035	0-58-12.88	0.99994147		0.99995809		0.99989955
0010	0-57-48.13	0.99994183		0.99995725		0.99989909
0011	0-58-13.56	0.99994191		0.99995706		0.99989897
0012	0-58-13.40	0.99994146		0.99995808		0.99989955
500	0-58-12.69	0.99994190		0.99995711		0.99989901
205	0-58-09.09	0.99994193		0.99995702		0.99989896
2073	0-58-08.35	0.99994194		0.99995697		0.99989891
2074	0-58-07.66	0.99994192		0.99995722		0.99989914
2076	0-58-05.57	0.99994192		0.99995726		0.99989918
2068	0-58-02.49	0.99994188		0.99995706		0.99989894
2069	0-58-01.08	0.99994187		0.99995696		0.99989883
2104	0-57-57.78	0.99994185		0.99995692		0.99989877
2103	0-57-56.91	0.99994185		0.99995699		0.99989884
2217	0-57-56.46	0.99994186		0.99995703		0.99989889
2102	0-57-56.34	0.99994186		0.99995701		0.99989888
2107	0-57-57.25	0.99994182		0.99995697		0.99989879
2115	0-57-59.05	0.99994178		0.99995703		0.99989880
2116	0-57-59.44	0.99994178		0.99995702		0.99989880
2117	0-58-00.11	0.99994178		0.99995683		0.99989861

2119	0-58-00.33	0.99994177	0.99995697	0.99989874
2118	0-58-00.01	0.99994177	0.99995700	0.99989877
2120	0-58-00.24	0.99994176	0.99995701	0.99989877
2132	0-58-03.66	0.99994172	0.99995700	0.99989873
2141	0-58-03.21	0.99994173	0.99995690	0.99989863
2140	0-58-02.83	0.99994173	0.99995691	0.99989864
2272	0-58-02.81	0.99994172	0.99995689	0.99989862
2131	0-58-02.81	0.99994172	0.99995747	0.99989920
2128	0-58-02.78	0.99994172	0.99995696	0.99989868
2127	0-58-02.54	0.99994172	0.99995689	0.99989862
2139	0-58-02.26	0.99994172	0.99995691	0.99989863
2130	0-58-02.35	0.99994172	0.99995700	0.99989872
2150	0-58-04.97	0.99994182	0.99995693	0.99989875
2255	0-58-06.72	0.99994174	0.99995700	0.99989875
2086	0-58-06.74	0.99994174	0.99995700	0.99989875
2257	0-58-06.60	0.99994174	0.99995701	0.99989875
2080	0-58-07.03	0.99994175	0.99995700	0.99989874
2256	0-58-06.66	0.99994175	0.99995701	0.99989876
2271	0-58-02.73	0.99994179	0.99995687	0.99989867
2151	0-58-02.99	0.99994179	0.99995679	0.99989858
200	0-58-05.01	0.99994180	0.99995701	0.99989881
201	0-58-05.85	0.99994178	0.99995705	0.99989884
202	0-58-07.59	0.99994175	0.99995704	0.99989878
203	0-58-09.40	0.99994170	0.99995706	0.99989876
1010	0-58-09.26	0.99994170	0.99995702	0.99989872
2176	0-58-10.55	0.99994153	0.99995699	0.99989852
2188	0-58-09.50	0.99994155	0.99995696	0.99989852
2175	0-58-09.35	0.99994155	0.99995695	0.99989851
2187	0-58-10.16	0.99994155	0.99995708	0.99989864
2180	0-58-10.18	0.99994155	0.99995705	0.99989860
2169	0-58-09.82	0.99994157	0.99995700	0.99989858
2171	0-58-09.64	0.99994156	0.99995702	0.99989859
2113	0-58-08.36	0.99994156	0.99995699	0.99989856
2109	0-58-08.06	0.99994157	0.99995703	0.99989860
2172	0-58-10.11	0.99994156	0.99995709	0.99989866
2189	0-58-11.21	0.99994157	0.99995724	0.99989880
2114	0-58-08.16	0.99994158	0.99995684	0.99989842
2165	0-58-07.75	0.99994158	0.99995699	0.99989857
2164	0-58-06.68	0.99994161	0.99995699	0.99989860
2148	0-58-06.14	0.99994167	0.99995698	0.99989865
2099	0-58-07.08	0.99994168	0.99995694	0.99989862
2098	0-58-07.15	0.99994168	0.99995711	0.99989879
52	0-58-11.32	0.99994152	0.99995701	0.99989853
2089	0-58-08.76	0.99994169	0.99995703	0.99989872
2093	0-58-08.71	0.99994170	0.99995707	0.99989877
53	0-58-07.09	0.99994169	0.99995704	0.99989872
2084	0-58-05.52	0.99994173	0.99995703	0.99989876
2134	0-58-04.11	0.99994172	0.99995709	0.99989881
54	0-58-05.54	0.99994173	0.99995702	0.99989875
2143	0-58-03.33	0.99994171	0.99995683	0.99989854
2095	0-58-11.70	0.99994163	0.99995702	0.99989866
2090	0-58-08.94	0.99994169	0.99995705	0.99989874
5324	0-58-08.86	0.99994196	0.99995711	0.99989907
LL2	0-58-04.67	0.99994164	0.99995707	0.99989872
2177	0-58-09.34	0.99994153	0.99995704	0.99989856
2167	0-58-07.27	0.99994157	0.99995700	0.99989858
2166	0-58-06.12	0.99994160	0.99995702	0.99989862
2260	0-58-05.89	0.99994160	0.99995703	0.99989864
2243	0-58-06.10	0.99994160	0.99995703	0.99989863
2213	0-58-05.53	0.99994161	0.99995703	0.99989865

2160	0-58-05.55	0.99994163	0.99995702	0.99989865
2162	0-58-05.38	0.99994163	0.99995702	0.99989865
2161	0-58-05.23	0.99994163	0.99995706	0.99989869
2163	0-58-05.39	0.99994163	0.99995703	0.99989866
2111	0-58-04.88	0.99994164	0.99995703	0.99989867
2159	0-58-05.29	0.99994166	0.99995700	0.99989866
2158	0-58-05.90	0.99994166	0.99995688	0.99989855
56	0-58-05.11	0.99994165	0.99995702	0.99989867
2214	0-58-03.57	0.99994169	0.99995550	0.99989719
2129	0-58-02.53	0.99994172	0.99995506	0.99989678
2110	0-58-01.50	0.99994174	0.99995162	0.99989336
2215	0-58-01.12	0.99994174	0.99995134	0.99989309
2122	0-58-00.30	0.99994176	0.99995084	0.99989260
2216	0-57-59.21	0.99994178	0.99994848	0.99989026
2112	0-57-57.43	0.99994181	0.99995701	0.99989882
2217A	0-57-57.15	0.99994182	0.99995704	0.99989886
2108	0-57-56.91	0.99994182	0.99995703	0.99989885
2100	0-57-56.38	0.99994184	0.99995702	0.99989886
2101	0-57-55.56	0.99994186	0.99995701	0.99989887
57	0-57-57.28	0.99994181	0.99995701	0.99989882
2066	0-58-00.75	0.99994189	0.99995709	0.99989899
58	0-58-00.54	0.99994189	0.99995706	0.99989895
2067	0-58-01.51	0.99994190	0.99995717	0.99989907
2071	0-58-06.91	0.99994194	0.99995731	0.99989925
206	0-58-08.81	0.99994197	0.99995709	0.99989906
2106	0-57-57.81	0.99994183	0.99995697	0.99989880
210	0-57-58.83	0.99994181	0.99995680	0.99989862
209	0-57-57.95	0.99994184	0.99995694	0.99989878
2156	0-58-05.11	0.99994168	0.99995682	0.99989850
2155	0-58-04.77	0.99994167	0.99995683	0.99989851
2146	0-58-04.89	0.99994167	0.99995700	0.99989868
2154	0-58-04.25	0.99994167	0.99995681	0.99989848
2145	0-58-04.33	0.99994167	0.99995701	0.99989868
2157	0-58-05.40	0.99994168	0.99995683	0.99989851
2142	0-58-03.82	0.99994171	0.99995693	0.99989864
2212	0-58-09.19	0.99994151	0.99995776	0.99989928
2184	0-58-13.23	0.99994156	0.99995730	0.99989886
2248	0-58-13.27	0.99994159	0.99995719	0.99989878
212	0-58-04.29	0.99994164	0.99995666	0.99989830
211	0-58-03.81	0.99994166	0.99995667	0.99989833
501	0-57-30.78	0.99994168	0.99995733	0.99989901
3233	0-57-30.07	0.99994166	0.99995726	0.99989892
3077	0-57-32.25	0.99994162	0.99995737	0.99989900
3234	0-57-33.09	0.99994159	0.99995715	0.99989874
3092	0-57-33.84	0.99994158	0.99995735	0.99989894
3084	0-57-33.38	0.99994160	0.99995735	0.99989895
3091	0-57-34.07	0.99994158	0.99995734	0.99989892
70	0-57-30.07	0.99994166	0.99995735	0.99989901
3078	0-57-35.33	0.99994156	0.99995737	0.99989893
71	0-57-35.84	0.99994154	0.99995724	0.99989878
3238	0-57-35.83	0.99994154	0.99995713	0.99989867
3111	0-57-36.47	0.99994154	0.99995733	0.99989887
3101	0-57-36.71	0.99994153	0.99995734	0.99989887
72	0-57-38.09	0.99994149	0.99995738	0.99989887
3239	0-57-38.08	0.99994149	0.99995730	0.99989879
3117	0-57-38.46	0.99994149	0.99995738	0.99989888
301	0-57-39.68	0.99994144	0.99995737	0.99989882
302	0-57-34.33	0.99994157	0.99995737	0.99989894
300	0-57-39.07	0.99994146	0.99995738	0.99989885
303	0-57-39.64	0.99994145	0.99995735	0.99989881

3140	0-57-40.74	0.99994143	0.99995736	0.99989879
3145	0-57-43.06	0.99994137	0.99995734	0.99989872
3144	0-57-43.77	0.99994136	0.99995735	0.99989870
3142	0-57-43.74	0.99994138	0.99995730	0.99989868
3081	0-57-42.83	0.99994139	0.99995733	0.99989872
3143	0-57-44.72	0.99994136	0.99995733	0.99989869
3080	0-57-42.35	0.99994140	0.99995734	0.99989874
3080A	0-57-42.35	0.99994140	0.99995734	0.99989874
3082	0-57-42.58	0.99994141	0.99995719	0.99989860
3138	0-57-41.93	0.99994141	0.99995724	0.99989865
3137	0-57-41.47	0.99994142	0.99995734	0.99989876
3184	0-57-46.69	0.99994144	0.99995721	0.99989865
3187	0-57-47.57	0.99994143	0.99995729	0.99989872
3188	0-57-48.10	0.99994143	0.99995729	0.99989872
3189	0-57-48.68	0.99994143	0.99995720	0.99989863
3190	0-57-48.44	0.99994142	0.99995730	0.99989872
3191	0-57-49.16	0.99994141	0.99995718	0.99989859
3192	0-57-48.47	0.99994140	0.99995741	0.99989881
3193	0-57-49.14	0.99994140	0.99995719	0.99989860
3183	0-57-48.77	0.99994139	0.99995721	0.99989860
3195	0-57-48.55	0.99994139	0.99995725	0.99989864
3196	0-57-49.06	0.99994137	0.99995718	0.99989856
3194	0-57-48.06	0.99994139	0.99995725	0.99989864
3198	0-57-48.40	0.99994135	0.99995732	0.99989867
3199	0-57-48.83	0.99994133	0.99995731	0.99989864
3186	0-57-47.76	0.99994144	0.99995725	0.99989869
3056	0-57-46.23	0.99994146	0.99995735	0.99989882
3066	0-57-43.83	0.99994152	0.99995735	0.99989887
3058	0-57-41.67	0.99994157	0.99995736	0.99989893
3197	0-57-48.01	0.99994136	0.99995735	0.99989871
3129	0-57-40.61	0.99994150	0.99995734	0.99989884
74	0-57-43.11	0.99994151	0.99995729	0.99989881
3237	0-57-43.10	0.99994151	0.99995720	0.99989871
3064	0-57-43.26	0.99994152	0.99995728	0.99989880
3067	0-57-43.74	0.99994152	0.99995730	0.99989882
3222	0-57-44.03	0.99994150	0.99995758	0.99989908
3132	0-57-39.37	0.99994148	0.99995736	0.99989884
3131	0-57-39.45	0.99994148	0.99995746	0.99989894
311	0-57-39.20	0.99994150	0.99995729	0.99989880
3065	0-57-43.23	0.99994152	0.99995729	0.99989881
3060	0-57-41.54	0.99994156	0.99995732	0.99989888
3020	0-57-40.47	0.99994151	0.99995731	0.99989882
310	0-57-39.48	0.99994150	0.99995729	0.99989879
3071	0-57-30.61	0.99994167	0.99995735	0.99989902
3072	0-57-30.94	0.99994167	0.99995741	0.99989908
3085	0-57-33.36	0.99994160	0.99995734	0.99989895
3083	0-57-33.73	0.99994160	0.99995734	0.99989895
3086	0-57-34.43	0.99994160	0.99995710	0.99989870
3088	0-57-34.02	0.99994160	0.99995732	0.99989892
3087	0-57-34.78	0.99994159	0.99995713	0.99989873
3093	0-57-35.17	0.99994158	0.99995712	0.99989871
3089	0-57-34.92	0.99994158	0.99995732	0.99989890
3208	0-57-36.36	0.99994156	0.99995722	0.99989879
3097	0-57-36.48	0.99994156	0.99995705	0.99989862
3100	0-57-36.09	0.99994156	0.99995715	0.99989871
3226	0-57-36.40	0.99994156	0.99995720	0.99989876
3099	0-57-36.47	0.99994156	0.99995724	0.99989880
3229	0-57-36.62	0.99994156	0.99995709	0.99989865
3098	0-57-36.79	0.99994156	0.99995706	0.99989862
3113	0-57-37.63	0.99994155	0.99995714	0.99989869

103	0-57-38.27	0.99994155	0.99995734	0.99989890
5	0-57-40.64	0.99994157	0.99995704	0.99989861
3159	0-57-41.23	0.99994156	0.99995726	0.99989883
3160	0-57-41.14	0.99994157	0.99995712	0.99989869
04	0-57-34.60	0.99994157	0.99995737	0.99989894
05	0-57-32.40	0.99994166	0.99995703	0.99989870
3201	0-57-47.03	0.99994147	0.99995715	0.99989863
3148	0-57-28.71	0.99994162	0.99995766	0.99989928
6	0-57-28.36	0.99994161	0.99995768	0.99989930
146	0-57-34.25	0.99994150	0.99995770	0.99989920
3147	0-57-35.04	0.99994149	0.99995768	0.99989916
161	0-57-41.27	0.99994157	0.99995720	0.99989877
12	0-57-40.70	0.99994150	0.99995732	0.99989883
502	0-56-55.06	0.99994110	0.99995806	0.99989916
3316	0-57-41.55	0.99994156	0.99995713	0.99989869
19	0-57-38.43	0.99994153	0.99995636	0.99989790
18	0-57-37.53	0.99994153	0.99995631	0.99989785
313	0-57-40.60	0.99994151	0.99995731	0.99989882
30	0-56-55.19	0.99994110	0.99995807	0.99989917
141	0-56-54.74	0.99994110	0.99995807	0.99989918
4137	0-56-54.71	0.99994110	0.99995811	0.99989922
4170	0-56-56.02	0.99994110	0.99995804	0.99989914
132	0-56-55.84	0.99994114	0.99995825	0.99989940
133	0-56-56.13	0.99994115	0.99995823	0.99989938
4127	0-56-55.97	0.99994116	0.99995821	0.99989937
4126	0-56-57.91	0.99994117	0.99995825	0.99989942
130	0-56-56.65	0.99994115	0.99995822	0.99989937
092	0-56-56.95	0.99994113	0.99995820	0.99989934
4090	0-57-01.24	0.99994118	0.99995829	0.99989947
4086	0-56-58.23	0.99994119	0.99995823	0.99989942
091	0-56-58.54	0.99994119	0.99995823	0.99989943
4085	0-56-57.03	0.99994120	0.99995822	0.99989942
4084	0-56-56.92	0.99994119	0.99995821	0.99989940
128	0-56-56.36	0.99994117	0.99995823	0.99989941
087	0-56-58.06	0.99994118	0.99995822	0.99989941
4088	0-56-59.15	0.99994120	0.99995820	0.99989940
4080	0-56-48.62	0.99994120	0.99995821	0.99989941
082	0-56-48.99	0.99994120	0.99995819	0.99989939
118	0-56-49.92	0.99994116	0.99995827	0.99989943
4074	0-56-41.70	0.99994117	0.99995830	0.99989947
1073	0-56-41.90	0.99994116	0.99995817	0.99989934
1071	0-56-41.80	0.99994117	0.99995836	0.99989953
4110	0-56-42.71	0.99994111	0.99995860	0.99989971
4094	0-56-39.21	0.99994110	0.99995854	0.99989965
6277C	0-56-39.36	0.99994110	0.99995853	0.99989963
1093	0-56-39.36	0.99994110	0.99995853	0.99989963
6277B	0-56-39.57	0.99994110	0.99995850	0.99989960
6277A	0-56-38.81	0.99994110	0.99995850	0.99989960
11	0-56-38.80	0.99994110	0.99995850	0.99989960
4072	0-56-42.10	0.99994117	0.99995830	0.99989947
38	0-56-32.70	0.99994109	0.99995823	0.99989932
1070	0-56-32.40	0.99994109	0.99995821	0.99989930
1157	0-56-33.43	0.99994108	0.99995834	0.99989943
4069	0-56-32.18	0.99994109	0.99995817	0.99989926
4167	0-56-30.04	0.99994108	0.99995823	0.99989931
0401	0-56-42.75	0.99994111	0.99995856	0.99989967
0400	0-56-42.38	0.99994112	0.99995839	0.99989951
4105	0-56-43.78	0.99994112	0.99995843	0.99989955
1102	0-56-37.45	0.99994109	0.99995838	0.99989947
0402	0-56-37.06	0.99994109	0.99995846	0.99989956

7404	0-56-57.07	0.99994114	0.99995822	0.99989937
7403	0-56-56.76	0.99994115	0.99995818	0.99989934
4198	0-56-46.84	0.99994113	0.99995825	0.99989939
0407	0-56-47.35	0.99994114	0.99995754	0.99989868
7406	0-56-47.22	0.99994115	0.99995759	0.99989874
7409	0-56-46.15	0.99994114	0.99995757	0.99989871
4196	0-56-49.44	0.99994111	0.99995820	0.99989931
4116	0-56-49.34	0.99994111	0.99995831	0.99989942
115	0-56-49.90	0.99994112	0.99995828	0.99989940
3	0-56-50.23	0.99994113	0.99995824	0.99989937
4197	0-56-50.22	0.99994113	0.99995816	0.99989929
4	0-56-48.57	0.99994109	0.99995838	0.99989947
195	0-56-48.57	0.99994109	0.99995829	0.99989939
35	0-56-43.30	0.99994110	0.99995833	0.99989943
32	0-56-49.44	0.99994111	0.99995829	0.99989941
194	0-56-43.30	0.99994110	0.99995824	0.99989934
177	0-56-44.37	0.99994111	0.99995836	0.99989947
4013	0-56-49.57	0.99994110	0.99995894	0.99990003
145	0-56-49.68	0.99994110	0.99995888	0.99989997
189	0-56-50.92	0.99994109	0.99995839	0.99989948
4136	0-56-53.74	0.99994110	0.99995808	0.99989918
4199	0-56-50.42	0.99994105	0.99995855	0.99989960
193	0-56-40.29	0.99994109	0.99995828	0.99989937
049	0-56-41.78	0.99994109	0.99995878	0.99989988
4096	0-56-39.66	0.99994109	0.99995843	0.99989953
37	0-56-40.30	0.99994109	0.99995837	0.99989947
168	0-56-47.02	0.99994123	0.99995823	0.99989946
164	0-56-46.17	0.99994119	0.99995821	0.99989940
0415	0-56-46.65	0.99994118	0.99995759	0.99989878
0414	0-56-45.92	0.99994118	0.99995757	0.99989876
021	0-56-49.37	0.99994110	0.99995891	0.99990001
413	0-56-50.52	0.99994105	0.99995863	0.99989969
412	0-56-50.75	0.99994106	0.99995861	0.99989967
171	0-56-46.16	0.99994103	0.99995829	0.99989933
140	0-56-48.38	0.99994123	0.99995823	0.99989947
4089	0-57-00.69	0.99994119	0.99995820	0.99989939
453	0-57-01.36	0.99994119	0.99995822	0.99989942
152	0-57-00.21	0.99994120	0.99995822	0.99989942
39	0-56-54.56	0.99994105	0.99995813	0.99989918
4200	0-56-54.56	0.99994105	0.99995804	0.99989909
048	0-56-35.71	0.99994113	0.99995869	0.99989982
142	0-56-50.29	0.99994115	0.99995825	0.99989940
4122	0-56-49.81	0.99994114	0.99995827	0.99989941
265	0-58-18.30	0.99994136	0.99995940	0.99990077
265	0-58-18.30	0.99994136	0.99995932	0.99990069
126	0-58-02.65	0.99994172	0.99995688	0.99989861
2144	0-58-02.75	0.99994171	0.99995670	0.99989841
0250	0-58-03.22	0.99994172	0.99995686	0.99989859
aaaa	0-58-02.99	0.99994179	0.99995679	0.99989858
bbbb	0-58-02.78	0.99994179	0.99995707	0.99989886
0248	0-58-03.22	0.99994174	0.99995691	0.99989865
0247	0-58-03.98	0.99994173	0.99995693	0.99989866
054	0-58-19.29	0.99994137	0.99995964	0.99990101
2182	0-58-19.90	0.99994136	0.99995987	0.99990123
2055	0-58-24.47	0.99994138	0.99996035	0.99990173
2053	0-58-15.30	0.99994138	0.99995878	0.99990017
151	0-58-12.01	0.99994151	0.99995711	0.99989862
150	0-58-11.42	0.99994149	0.99995717	0.99989866
152	0-58-12.27	0.99994153	0.99995711	0.99989864
245	0-58-07.69	0.99994167	0.99995744	0.99989911

170	0-58-09.41	0.99994157	0.99995703	0.99989860
186	0-58-10.18	0.99994155	0.99995705	0.99989861
2270	0-57-55.48	0.99994187	0.99995698	0.99989885
270	0-57-55.47	0.99994187	0.99995699	0.99989886
54	0-57-53.23	0.99994193	0.99995709	0.99989902
55	0-57-56.35	0.99994163	0.99995690	0.99989853
158	0-57-59.32	0.99994205	0.99995805	0.99990010
2233	0-57-59.22	0.99994205	0.99995836	0.99990042
57	0-57-56.70	0.99994203	0.99995803	0.99990006
53	0-57-53.31	0.99994191	0.99995685	0.99989877
2049	0-58-10.59	0.99994143	0.99995829	0.99989973
044	0-56-18.90	0.99994112	0.99995832	0.99989945
058	0-56-52.74	0.99994096	0.99995930	0.99990025
4068	0-56-32.67	0.99994109	0.99995822	0.99989931
3130	0-57-39.91	0.99994148	0.99995747	0.99989895
121	0-57-40.11	0.99994149	0.99995739	0.99989888
122	0-57-39.37	0.99994148	0.99995736	0.99989885
3155	0-57-43.25	0.99994152	0.99995740	0.99989893
3070	0-57-43.29	0.99994152	0.99995737	0.99989890
16	0-57-41.55	0.99994156	0.99995714	0.99989870
317	0-57-41.54	0.99994156	0.99995732	0.99989889
3139	0-57-41.14	0.99994142	0.99995736	0.99989878
121	0-57-30.66	0.99994165	0.99995739	0.99989904
120	0-57-31.34	0.99994164	0.99995738	0.99989901
323	0-57-37.84	0.99994155	0.99995706	0.99989862
3227	0-57-36.60	0.99994155	0.99995720	0.99989876
122	0-57-37.30	0.99994155	0.99995711	0.99989866
3241	0-57-33.29	0.99994151	0.99995772	0.99989923
3047	0-57-33.63	0.99994151	0.99995789	0.99989940
3048	0-57-34.95	0.99994147	0.99995807	0.99989954
162	0-57-35.05	0.99994147	0.99995803	0.99989950
327	0-57-35.18	0.99994145	0.99995792	0.99989937
326	0-57-36.19	0.99994143	0.99995798	0.99989941
3050	0-57-36.41	0.99994143	0.99995813	0.99989956
150	0-57-37.93	0.99994142	0.99995764	0.99989906
3163	0-57-34.69	0.99994146	0.99995810	0.99989956
3046	0-57-30.16	0.99994158	0.99995807	0.99989965
141	0-57-33.29	0.99994151	0.99995783	0.99989934
328	0-57-32.46	0.99994161	0.99995737	0.99989899
230	0-57-35.67	0.99994153	0.99995729	0.99989882
229	0-57-35.29	0.99994155	0.99995726	0.99989881
329	0-57-33.09	0.99994165	0.99995690	0.99989855
3149	0-57-29.31	0.99994160	0.99995764	0.99989924
3151	0-57-38.25	0.99994141	0.99995768	0.99989909
330	0-57-42.02	0.99994157	0.99995733	0.99989889
331	0-57-39.01	0.99994163	0.99995734	0.99989897
3154	0-57-43.31	0.99994152	0.99995729	0.99989881
3185	0-57-47.36	0.99994146	0.99995713	0.99989860
0132	0-57-41.12	0.99994157	0.99995708	0.99989865
0000	0-57-38.34	0.99994149	0.99995759	0.99989908
334	0-57-38.32	0.99994149	0.99995737	0.99989886
335	0-57-43.66	0.99994135	0.99995738	0.99989873
336	0-57-44.48	0.99994134	0.99995733	0.99989867
3242	0-57-47.23	0.99994128	0.99995750	0.99989878
242	0-57-47.23	0.99994128	0.99995759	0.99989887
3240	0-57-41.51	0.99994139	0.99995710	0.99989850
240	0-57-41.52	0.99994139	0.99995720	0.99989859
2219	0-58-12.75	0.99994170	0.99995675	0.99989845
2231	0-58-07.06	0.99994168	0.99995712	0.99989881
253	0-58-06.93	0.99994149	0.99995728	0.99989878

252	0-58-09.66	0.99994151	0.99995700	0.99989851
2052	0-58-13.29	0.99994138	0.99995879	0.99990018
337	0-57-44.63	0.99994151	0.99995735	0.99989886
3051	0-57-29.49	0.99994144	0.99995859	0.99990003
150	0-57-05.05	0.99994117	0.99995823	0.99989940
151	0-57-07.02	0.99994116	0.99995823	0.99989939
207	0-58-08.68	0.99994198	0.99995714	0.99989912
4143	0-56-45.26	0.99994118	0.99995830	0.99989948
108	0-56-45.82	0.99994114	0.99995753	0.99989867
417	0-56-41.35	0.99994106	0.99995829	0.99989935
416	0-56-40.63	0.99994106	0.99995815	0.99989921
119	0-56-50.96	0.99994115	0.99995812	0.99989928
118	0-56-51.74	0.99994115	0.99995807	0.99989923
4050	0-56-48.75	0.99994109	0.99995885	0.99989994
333	0-57-39.83	0.99994156	0.99995706	0.99989863
332	0-57-41.12	0.99994157	0.99995708	0.99989865
1172	0-56-41.04	0.99994103	0.99995805	0.99989908
4044	0-56-18.89	0.99994112	0.99995835	0.99989948
3052	0-57-27.76	0.99994147	0.99995866	0.99990014
3053	0-57-19.91	0.99994155	0.99995896	0.99990051
390	0-57-20.63	0.99994151	0.99995859	0.99990010
391	0-57-20.28	0.99994151	0.99995854	0.99990004
Project Averages:	0-57-36.74	0.99994149	0.99995744	0.99989893

DRAWINGS

Load Line 2 Groundwater Monitoring Wells Ground Surface Elevation Data^a					
Node #	Northing	Easting	Ground Elevation	Reference	Ref. Point
5261	561898.25	2373317.81	1009.55	LL2-261	Brass Plate
5262	562219.87	2373970.79	1011.12	LL2-262	Brass Plate
5263	561591.19	2374289.51	1009.42	LL2-263	Brass Plate
5264	561173.60	2374532.00	1010.10	LL2-264	Brass Plate
5265	557972.91	2375594.06	959.47	LL2-265	Brass Plate
5266	561981.86	2373744.03	1014.09	LL2-266	Brass Plate
5267	561393.22	2373715.04	1012.81	LL2-267	Brass Plate
5268	560831.04	2374157.30	1015.47	LL2-268	Brass Plate
5269	559484.12	2374756.07	1009.49	LL2-269	Brass Plate
5270	562655.93	2372858.41	1009.93	LL2-270	Brass Plate

^a Coordinates are Ohio state plane system; elevations are in feet above mean sea level.